

REMARKS

Filed concurrently herewith is a request for a one month Extension of Time which extends the Shortened Statutory period for response to March 16, 2005. Accordingly, Applicant respectfully submits that this response is being timely filed.

The Official Action dated November 16, 2004 has been received and its contents carefully noted. In view thereof, claims 1-4 have been cancelled in their entirety without prejudice or disclaimer of the subject matter set forth therein in favor of new claims 5-16. Accordingly, claims 5-16 are presently pending in the instant application.

With reference now to the Office Action, particularly page 2 thereof, claims 1-4 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner notes that previous claims 1-4 recited "distinguishing halftone pixels from non-halftone pixels in pixels" and "redetermined to be halftone pixels and are not lower than a predetermined threshold density in density". In this regard, as can be seen for the foregoing amendments each of claims 1-4 have been cancelled in favor of new claims 5-16. Particularly, with respect to new independent claims 5-8, these claims have been set forth in a manner which does not include the language referred to by the Examiner and which are definite and particularly pointed out and distinctly claim the subject matter which Applicant regards as the invention. Accordingly, it is respectfully submitted that Applicants claimed invention as set forth in claims 5-16 is now in proper formal condition for allowance.

Referring now to paragraph 5 of the Office Action, claims 1-4 have rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,403,257 issued to Hsieh et al. This rejection is respectfully traversed that the patent to Hsieh et al. neither discloses nor suggests that which is presently set forth by Applicants claimed invention.

As can be seen from the foregoing amendments, the present invention is directed to a method and an apparatus for determining a halftone area in image data as well as a method of distinguishing halftone pixels from non-halftone pixels in image data. Particularly, independent claim 5 recites a method of determining a halftone area in image data including steps of determining whether or not each pixel in the image data is an edge pixel, determining whether each pixel in the image data is a halftone pixel or a non-halftone pixel according to a predetermined algorithm based on the result of the initial step and a further step of correcting the result of the second step by changing a non-halftone pixel which is continuous to the

halftone pixel determined at the second step or a halftone pixel previously corrected at the third step and has a density equal to or higher than a threshold density to a halftone pixel. That is, in the method as set forth in claim 5, the pixels which are determined as non-halftone pixels are corrected. For example, a target pixel which is determined as a non-halftone pixel is corrected to a halftone pixel if the target pixel meets particular conditions. Particularly, the target pixel which is determined to be a non-halftone pixel will be corrected to a halftone pixel if the target pixel is continuous to "halftone pixels" or is continuous to pixels corrected to halftone pixels of being previously target pixels corrected to halftone pixels and the intensity of the target pixel is higher than or equal to a threshold density. In other words, in the method as recited in independent claim 5, two types of halftone pixels are considered for correcting the target pixels. Similarly, with respect to independent claim 6, the number of two types of halftone pixels within the reference region is counted.

With respect to the teachings of Hsieh et al. et al., this reference discloses a method for determining halftone pixels. In the method, the pixels determined as non-halftone pixels in one instance are corrected to halftone pixels with reference to the predetermined type of other adjacent pixels. As noted hereinabove, in accordance with Applicants claimed invention two types of halftone pixels are considered for correcting the target pixel. Clearly, this is not the case with the teachings of Hsieh et al.

With respect to each of independent claims 7 and 8, each of these claims are directed to an apparatus for determining the halftone area in image data each including an edge detecting means which detects whether each pixel in the image data is an edge pixel or not, halftone pixel determining means which determines whether each pixel is a halftone pixel or a non-halftone according to a predetermined algorithm as well as a redirecting means which corrects the result obtained from the halftone pixel determining means. Independent claim 7 goes on to recite a redetermining means which corrects the result obtained from the halftone pixel determining means by changing a non-halftone pixel which is continuous to the halftone pixel determined by the halftone pixel determining means or a halftone pixel previously corrected by a redetermined means and have a density equal to or higher than a threshold density to a halftone pixel. With respect to independent claim 8, the redirecting means which corrects the result obtained from the halftone pixel determining means include setting a reference region having a predetermined size and including at least a non-halftone pixel, counting a number of halftone pixels determined by the halftone pixel determining means and halftone pixels previously corrected by the redetermining means within the

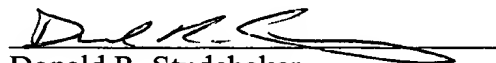
reference region and if the counted number is larger than a threshold number and the halftone pixel has density equal to or greater than a threshold density, changing the non-halftone pixel to a half-tone pixel. Again, it is respectfully submitted that the patent to Hsieh et al. neither discloses nor suggest such features. As discussed hereinabove, Hsieh et al. discloses that the pixels determined as non-halftone pixels at one time are corrected to halftone pixels with reference to the determined type of adjacent pixels. In that this is not the case with Applicants claimed invention, it is respectfully submitted that each of independent claims 5-8 as well as those claims which depend therefrom clearly distinguish over the teaching of Hsieh et al. and are in proper condition for allowance.

With respect to claims 9-16, each of these claims are either directly or indirectly dependent upon one of independent claims 5-8, and thus are believed to be in proper condition for allowance for the reason discussed herein above. Support for the features set forth therein can be found on page 26 of Applicants specification.

Therefore, in view of the foregoing it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 5-16 be allowed and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is hereby invited to telephone counsel to arrange such a conference.

Respectfully submitted,



Donald R. Studebaker
Reg. No. 32,815

Nixon Peabody LLP
401 9th Street N.W.
Suite 900
Washington, D. C. 20004
(202) 585-8000